

Appl. No. 10/659,597  
Amdt. Dated July 29, 2004  
Reply to Office Action of February 17, 2004

## **REMARKS**

### **Claim Amendments**

Claim 1 has been amended to positively recite the vacuum pump as an element of the claimed system, the claimed invention being now characterized as a system to accommodate that change.

New claims 13 and 14 depend from claim 1 and address features that were in claim 1 as originally filed.

### **Claims Rejections**

#### **35 U.S.C. § 112 Rejections**

The examiner objected to claim 10 under 35 U.S.C. 112 for indefiniteness in that it recited a difference in cross-sectional areas between two identical points. This was a clerical error which has been corrected in amended claim 10 to specify that the cross-sectional area of the liquid effluent flow path in the vicinity of the sedimentary deposit tank outlet is less than the cross-sectional area of the liquid effluent flow path in the vicinity of the sedimentary deposit tank inlet.

Appl. No. 10/659,597  
Amdt. Dated July 29, 2004  
Reply to Office Action of February 17, 2004

### 35 U.S.C. §102 Rejections

Claims 1 - 8 stand rejected as being anticipated by Erwin.

Erwin discloses an oil/water emulsion treatment system in which oil and water are separately drawn from an emulsion treater chamber 2, and secondary treatment may be effected in a filter-skimmer chamber 1 wherefrom oil is skimmed out at outlet N. Water from the filter-skimmer chamber 1 is filter at the outlet G located at the lowermost point of the chamber 1. Water may then be directed to a remote surge tank that is not part of the system disclosed by Erwin (see col. 2, line 6).

The examiner characterized Erwin's emulsion treater chamber 2 as the claimed "surge tank" and the filter-skimmer chamber 1 as the claimed "sedimentary deposit tank". The examiner further pointed out that in view of the manner in which the claim was originally drafted, the vacuum pump and suctioning device, which are not disclosed by Erwin, were not positively recited structures of the claimed apparatus.

Claim 1 has now been amended to positively recite the vacuum pump as a structure of the claimed system. Erwin fails to disclose such a vacuum pump.

The examiner will otherwise appreciate that the Erwin system is very remote in operation and application from the claimed invention. The present invention is directed to removing particles from liquid effluent, whereas Erwin is directed to separating oil from water. Erwin operates by drawing oil from water in a first chamber 2, then optionally (by selective operation of valves E and K) circulating the remaining fluid to a second chamber 1 where the water is filter at the outlet and any remaining oil is again drawn through a separate outlet N. The present invention uses a surge tank to absorb surges in the effluent supply, and a sedimentary deposit tank to cause the particles to settle out, the

Appl. No. 10/659,597  
Amdt. Dated July 29, 2004  
Reply to Office Action of February 17, 2004

flow through both tanks being promoted by the effect of the system being in line with a vacuum pump system.

A surge tank is a tank which absorbs surges in an intake system. There is nothing in Erwin to suggest that his emulsion treater chamber 2 acts as a surge tank. In fact, Erwin refers at column 2 line 6 to a surge tank, but such surge tank is separate from the disclosed invention and it is expressly noted that the surge tank is not shown in the drawing.

Erwin's filter-skimmer chamber 1 is also not a sedimentary deposit tank. If it were a sedimentary deposit tank, sediment would deposit at the bottom of the tank and the outlet G would soon clog entirely rendering the device inoperable.

It is therefore respectfully submitted that Erwin does not anticipate or render obvious claim 1 as originally filed, or as currently amended. Claims 2-8 depend from claim 1 and the comments made above in relation to claim 1 apply equally to those claims.

Claims 1-3 and 5-6 stand rejected as being anticipated by Dittler. Dittler discloses a septic system for clarifying fecal matter. Fecal matter and liquids are gathered in a settling tank A having a plurality of partitions to promote settling of the heavier constituents. Gas is venting through a chimney n. Overflow liquid is then siphoned into a blowing and oxidizing tank B in which air is drawn and dispersed to assist in bacteriological control.

The examiner characterized Dittler's tank A as a surge tank, and tanks B and C as settling tanks. However, tank A and not tanks B or C is the primary sediment deposit tank in the Dittler system. Dittler does not disclose a vacuum pump system as claimed in amended claim 1.

Appl. No. 10/659,597  
Amdt. Dated July 29, 2004  
Reply to Office Action of February 17, 2004

Dittler also fails to disclose a by-pass conduit establishing fluid communication between tank A and a vacuum pump inlet. With respect to Dittler's tank B, the only air outlet is outlet n which is not in communication with a vacuum pump system.

The examiner will appreciate that Dittler is otherwise very different from the present invention. Having regard to the foregoing, it is respectfully submitted that Dittler does not anticipate or render obvious the invention as claimed.

Claims 1 and 11 stand rejected as being anticipated by Trawoger et al.

Trawoger discloses a centrifuge-based separation system. An air/liquid/solids slurry is first stripped of air in an air separation chamber 5, the air being evacuated by outlets 3 and 6. The remaining liquid/solids mixture falls down an inclined chute to a solid matter separation device 10, in particular into the sedimentation chamber 21 thereof. An motorized impeller 22 draws the mixture into an area 12 at the top of the centrifuge. The solids are separated from the liquid by the centrifuge, with the solids being ejected through sludge outlet 14. The liquids are redirected back to a clean liquid area in laterally adjacent intermediate container 32 and eventually out outlet 2.

One feature of the present invention is its passive nature, the only motive forces being the suction caused through the system by the vacuum pump, and gravity. This also makes maintenance relatively easier, among other advantages. In order to more clearly distinguish the invention over Trawoger, claim 1 have further been amended to specify that the sedimentary deposit tank is passive and non-electrically driven, with settlement of the particles from the liquid being primarily under the influence of gravity. This is unlike Trawoger in which the primary separation means is the centrifuge.

Appl. No. 10/659,597  
Amdt. Dated July 29, 2004  
Reply to Office Action of February 17, 2004

In addition, Trawoger does not include a surge tank. A surge tank is a tank that absorbs surges. However the chamber under the air separation chamber 5 is not properly characterized as a "tank" in that it does not function to hold fluids for any period of time. This is due to the inclined chute which immediately dispenses any fluids in the chamber to the solid matter separation device 10. It is submitted that the Trawoger structure would not be considered by a person skilled in the art to act as a "surge tank".

Claim 1 as amended further specifies that the arrangement of the vacuum pump in relation to the sedimentary deposit tank liquid outlet acts to draw liquid effluent from the surge tank through the sedimentary deposit tank. This is not the case in Trawoger, which apparently does not use the vacuum system to promote such flow through. The liquids collected in clean liquid supply device 31 appear to simply overflow into the outlet tube above outlet 2.

For the foregoing reasons, it is submitted that Trawoger does not anticipate or render obvious the claimed invention.

### 35 U.S.C. § 103 Rejections

The 35 U.S.C. § 103 rejections have been asserted in relation to claims 9, 10 and 12, all of which are dependent on claim 1.

For the reasons stated above, it is submitted that claim 1 and the claims that depend on it are now allowable and that none of the cited prior art, either alone or in combination, renders the claims obvious. None of them disclose an in line separator system, with a passive gravity-based sedimentation tank and that uses the vacuum pump to actively draw fluids through a surge tank and the sedimentation tank in the manner claimed.


Appl. No. 10/659,597  
Amdt. Dated July 29, 2004  
Reply to Office Action of February 17, 2004

**CONCLUSION**

The Applicant submits that the claims as amended are now in condition for allowance and respectfully requests that a Notice of Allowance be issued in this case.

Date: July 29, 2004

Respectfully submitted,



Paul Smith (Registration No. 35,777)  
Paul Smith Intellectual Property Law  
330 - 1508 West Broadway  
Vancouver, British Columbia V6J 1W8,  
CANADA  
Tel: 604-689-7276 Fax: 604-689-7216

Attorney for the Applicant  
Richard H. Chilibeck

196pl.res